

UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Utilities Service  
Technical Standards Committee "A"

Supplement No. 2, January 2004, to  
RUS Informational Publication 202-1,  
List of Materials Acceptable for Use on  
Systems of RUS Electrification Borrowers

The attached pages dated January 2004, for the "List of Materials Acceptable for Use on Systems of RUS Electrification Borrowers" are those which have been revised by action of the Technical Standards Committees during the months of October through December, 2003. They replace pages dated July 2003 and October 2003. The following changes should be made in order to keep RUS Informational Publication 202-1 up to date.

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a - Insulator, pin type

ANSI Class	55-2	55-3	55-4
Application	5 kV	12.5/7.2 kV and 13.2/7.62 kV systems	12.5/7.2 kV and 13.2/7.62 kV systems (where greater insulation is needed)
Pinhole diameter	1 in.	1 in.	1 in.
Porcelain Products (Knox) <sup>2</sup> Victor Insulators, Inc.	253 8	261-S 5	366-S 6
ANSI Class	56-1	56-3	56-4
Application	24.9/14.4 kV distribution lines	33 - 34.5 kV transmission lines	44 - 46 kV transmission lines
Pinhole diameter	1-3/8 in. Metal thimble (unless noted)	1-3/8 in. Metal thimble	1-3/8 in. Metal thimble
Porcelain Products (Knox) <sup>2</sup> Victor Insulators, Inc.	1027-S 27-R <sup>1</sup>	2045-S 245-R	- 255-R

<sup>1</sup>Does not have a metal thimble.

<sup>2</sup>ANSI class 55-2, 55-3, 55-4, and 56-1 pin insulators manufactured at both the Knoxville and Macomb plants are acceptable.

Conditional List  
a(1)  
July 2003

a - Insulators, pin type

Manufacturer	Conditions
*Porcelain Products 1027-ST, 24.9/14.4 kV, ANSI Class 56-1	To obtain experience.

\*Does not have metal thimble.

ai - Rods, Ground

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Copper-covered ground rods are listed with a 13 mil minimum at any point and a 15 mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Copper-covered steel rods

	<u>5/8"</u>	<u>3/4"</u>
Alumoclad	AL- 588	-
Apache	588R	-
Blackburn	625813MX	-
Boggs	EB-810-13	-
Eritech (Carolina Galvanizing/Knight)	615883	-
Galvan	6258G13	-
Harger	588RUS	-
Joslyn	J8338-13	-
Korns	KCG588-13	-
Republic Wire	RGC5883	-
South Atlantic, LLC (Southern Grounding)	C58813	C34813
Wilcor	WA588C	-

Stainless Clad Steel

<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
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(None accepted at this time)

ai - Rods, Ground

Applicable Size: The standard length is 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Hot Dip Galvanized Steel

Manufacturer	5/8"	3/4"
Blackburn	-	GR7508
Boggs	G588	G348
	PTG588**	PTG348**
Dixie	D8578	D8618
Erico	G588	G348
	G588PT**	G348PT**
Eritech (Carolina Galvanizing/Knight)	815880	813480
	815889**	813489**
Galvan	GR6258	GR7508
	GR6258P**	GR7508P**
General Electric	0982-00002	0982-00003
Grip-Tite	GT588	GT348
Hubbell (Chance)	8578	8618
	C203-0107**	C203-0109**
	C203-0377*	-
	GT588PT**	GT348PT**
Joslyn	J5328	J5338
Korns	KG58	KG34
Kortick	K4658	K4678
Line Hardware	GR-588G	GR-348G
Lloyd	6258H	7508H
MacLean (Continental)	U5307	U6338
Porcelain Products	7338	7348
South Atlantic, LLC (Southern Grounding)	Z588	Z348
Wilcor	WA8580G	WA8340G

Electro-Galvanized Steel

Apache	G588	G348
	G588PT**	G348PT**
Blackburn	GR6258	-
Calpico	G8580	-
LMP	6258E**	7508E**

Stainless Steel

Galvan	S6258	S7508
Harger	588SS3	-
Wilcor	WA 588-S	WA348-S

\*Rod furnished with clamp.

\*\*Rod furnished with 4 ft., No. 6 tinned or galvanized copper pigtail.

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Conditions for Acceptance: "E" - To obtain experience  
"T" - Manufacturer to furnish RUS with satisfactory test results  
(Only performance specifications have been submitted)

Manufacturer	Primary Voltage - kV	Nominal OA Capacity	
		750 to 3750 kVA	5 to 30 MVA
<u>Delta Star</u>	34.4	E	E
	43.8	E	E
	67.0	E	E
	115	-	E
	138	-	T

Transformers 5 MVA and larger also accepted as load tap changing transformers using Seimens-Allis Types TLS and TLH-21 load tap changers.

<u>Ferranti-Packard</u>	34.4	E	T
	67.0	T	E
	115	-	E

<u>GE-Prolec</u>	115	-	E
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Transformers 5 MVA and larger also accepted as load tap changing transformers using General Electric Types LR72, LR65, and LRT-200 load tap changers.

<u>Industrias IEM, S.A. de C.V</u>	115	-	E
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<u>MGM</u>	34.4	E	T
	43.8	E	T
	67.0	T	E

Transformers 5 MVA and larger also accepted as load tap changing transformers using ABB Types UTS-A and UTT-B load tap changers.

<u>Pauwels Transformers</u>	34.4	-	E
	67.0	-	E
	115	-	E

<u>Uptegraff</u>	34.4	T	E
	43.8	T	E

<u>Virginia Transformer</u>	67.0	-	E
	115	-	E
	138	-	E

Transformers 5 MVA and larger also accepted as load tap changing transformers using ABB type UZE and Reinhausen type RMV-2 tap changers

<u>Voltran SA de CV</u>	67.0	-	E
	115	-	E

Transformers 5 MVA and larger also accepted as load tap changing transformers using Reinhausen type RMV-II load tap changers.

All acceptances are based on RUS Specification S-3: Specifications for Step-Down Distribution Substation Transformers, and 15 kV or 25 kV class secondary voltages.

115 kV and 138 kV transformers may have one step reduced BIL.

an - Transformers, Step Ratio, Single Phase,  
Autotransformers or Two-Winding Transformers  
for Use in System Voltage Conversion

Condition of Acceptance: To obtain experience.

Manufacturer	Designation	Size
<u>ABB</u> 2-WND	"Jumbo"	167-500
<u>Central Moloney</u> 2-WND	AOD	167-500
<u>Cooper Power Systems</u> 2-WND AUTO	"Round-Coil" MEPS-AUTO	167-500 167-1000
<u>Delta Star</u> 2-WND AUTO	LTD LTD-A	167-500 167-1000
<u>General Electric</u> 2-WND AUTO	HS STEP HS STEP	167-500 167-1000
<u>Howard Industries</u> 2-WND	STEPS	167-500

NOTE: Two-winding transformers are self-protected under external short circuit in accordance with ANSI C57.12.90A. Auto-transformers will withstand 25 times rated current under external short circuit in accordance with ANSI C57.12.90A.



eq - Narrow Profile Brackets and Special Arm Assemblies

METAL BRACKETS

<u>Manufacturer</u>	<u>Conditions</u>
<u>Joslyn</u> Single post insulator brackets 24840.1, for 12.5/7.2 kV construction only 24840.2, for 24.9/14.4 kV construction	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected.
<u>MacLean (Bethea)</u> Single post insulator bracket, HBF-10-9-GC Standoff bracket VIB3-18-GC	Same as above.
<u>Universal Electric</u> Single post insulator bracket, SAB-3-18-GC	Same as above.

eq - Narrow Profile Brackets and Special Arm Assemblies

FIBERGLASS REINFORCED PLASTIC  
For 12.5/7.2 kV

Manufacturer	Conditions
<u>Hubbell (Chance)</u> Two-phase pin bracket 2SBM36VV4 Standoff insulator 1SBM13H1 Deadend arm DEM36SP	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected. 4. Not to be used in contaminated atmospheres.
<u>MacLean (Continental)</u> Two-phase pin bracket GPB2-568M-36V Two-phase angle bracket GPB2-568M-36E Standoff insulator GPB-58M-13 Standoff insulator GPB-58M-18 Deadend arm GDEA-58-3.0-36-2E Suspension bracket GPB-58M-18E	Same as above.
Single Phase Straight Pin Bracket, 15 Degrees AD15-SS-13 AD15-SS-18	Same as above.
Two-phase pin bracket 6742-36P Standoff insulator bracket 6745-13P Standoff insulator bracket 6745-18P	Same as above.

eq - Narrow Profile Brackets and Special Arm Assemblies

FIBERGLASS REINFORCED PLASTIC  
For 12.5/7.2 kV

Manufacturer	Conditions
<u>Joslyn (Flagg)</u> Two phase angle bracket 7561-336E Two phase pin bracket 7561-436 Standoff insulator 7561-012 Standoff insulator 7561-018 Suspension bracket 7561-818 Standoff bracket 7561-218 Deadend arm 7554-636-4E	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected. 4. Not to be used in contaminated atmospheres.
<u>Hughes Brothers</u> Two-phase angle bracket 761-36-8 Two-phase pin bracket 813-36 Standoff insulator, 560-13 Standoff insulator, 560-18 Suspension bracket, 615-18 Deadend arm, 540-36 Standoff bracket, 892-18	Same as above.

eq - Narrow Profile Brackets and Special Arm Assemblies

FIBERGLASS REINFORCED PLASTIC  
For 24.9/14.4 kV

Manufacturer	Conditions
<u>Hubbell (Chance)</u> Two-phase pin bracket 2SBM44VV4 Standoff insulator 1SBM19V4 Deadend arm DEM48SP	1. To obtain experience. 2. For use only in scenic areas and locations where right-of-way is limited. 3. Not to be used where conductor galloping may be expected. 4. Not to be used in contaminated atmospheres.
<u>Joslyn (Flagg)</u> Standoff insulator 7581-120X Standoff insulator 7561-118X Two-phase pin bracket 7561-448X Standoff bracket 7561-218 Deadend arm 7554-648-4E	Same as above.
<u>MacLean (Continental)</u> Two-phase pin bracket GPB2-568M-44-V-1.375 Two-phase pin bracket GPB2-558H-48-V-1.375 Standoff insulator GPB-58M-19-V-1.375 Standoff insulator GPB-58H-20-V-1.375 Standoff bracket GPB-5568M-18-GIACB Deadend arm GDEA-58-3.0-48-2E Single Phase Vertical Pin Bracket, 15 Degrees AD15-SV-19T Single Phase Apparatus Bracket, 15 Degrees AA15-STC-18	Same as above.      Same as above.
Standoff insulator bracket 6882-18P Standoff Insulator Bracket 6744-19P-1.375 Standoff insulator bracket 6748-20P-1.375 Two-phase pin bracket 6742-44P-1.375 Two-phase pin bracket 6747-48P-1.375	Same as above.